

APPENDIX B
BIOLOGICAL RESOURCES SURVEYS

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Biological Assessment of Four Proposed Sites for the Saline Valley Radar Facility Project

Mr. Mark Bratton, Biologist, JT3/CH2M HILL

Abstract: The Air Force Flight Test Center at Edwards Air Force Base, California, in cooperation with the Federal Aviation Administration (FAA) and the R-2508 Complex Control Board, is proposing to install an FAA certified air traffic control beacon radar facility and microwave repeater in Saline Valley, California. The project has been proposed in response to safety concerns regarding the lack of comprehensive radar coverage and air traffic control for civilian, military, and other governmental flights in the Saline Valley. To support this effort, biological assessments were conducted at four proposed installation sites. All four sites would utilize Waucoba Saline Valley Road as their main access route. As a result of proximity to the existing road, the two northern sites (known as Lead Canyon North and Lead Canyon South) would require only minimal additional road development for accessibility. The remaining two sites (Keyes Canyon North and McElvoy Canyon) are farther from the existing road and would require more extensive road development. In addition, the Keyes Canyon North and McElvoy Canyon sites are located in flood-prone areas that may necessitate additional modification to insure stability during periods of heavy precipitation. No sensitive plants or animals were observed or are expected to occur at any of the proposed project sites.

Introduction

The Air Force Flight Test Center at Edwards Air Force Base, California, in cooperation with the Federal Aviation Administration (FAA) and the R-2508 Complex Control Board, is proposing to install an FAA certified air traffic control beacon radar facility and microwave repeater in Saline Valley, California. The project has been proposed in response to safety concerns regarding the lack of comprehensive radar coverage and air traffic control for civilian, military, and other governmental flights in the Saline Valley.

Project activities would include improved vehicle and equipment access to the sites, site preparation, the installation of two beacon radar facilities and one repeater structure, and continued access to each site for facility maintenance.

Methods

Biological resource surveys were conducted at each proposed location on 19 June 2002, by JT3/CH2M HILL Biologist Mark Bratton. Full coverage surveys were conducted on each of the proposed sites, and access routes, and included a 100-foot buffer zone around the site boundary.

Five photographs were taken of each site using a Sony Mavica MVC FD 73 digital camera. Each photograph was taken from the center of the site, with one facing due north, east, south, and west; and one showing the center of the site (Appendix 1).

The vegetation community was classified by the dominant shrub species according to the California Department of Fish and Game descriptions of terrestrial natural communities by Holland (1986) with plant nomenclature following Munz (1974).

Biological resource information for Inyo County was derived from the California Department of Fish and Game Natural Diversity Database and a review of previous biological assessments from the surrounding area (Estiri 2001).

Results

The four sites were surveyed between 9 a.m. and 2 p.m. on 19 June 2002. Weather conditions consisted of sunny skies with no cloud cover, and an ambient air temperature ranging from 64 degrees Fahrenheit (°F) (17.7 degrees Celsius [°C]) to 98 °F (36.6°C). All sites are located in creosote bush (*Larrea tridentata*) scrub habitat with minor variations

in plant associations and topography. Recorded plant species are based on observations made during summer conditions after annual growth had ceased.

No sensitive plants or animals were observed, or are expected to occur, at any of the proposed project sites. Sensitive plant and animal species known to inhabit the Saline Valley region and associated habitat are listed in Table 1. Several threatened, endangered, and nonlisted bird species may utilize the area for stopovers during their migrations. Other animals that may utilize these areas include, but are not limited to: black-tailed jackrabbit (*Lepus californicus*), burro (*Equus asinus*), coyote (*Canis latrans*), deer mouse (*Peromyscus maniculatus*), desert horned lizard (*Phrynosoma platyrhinos*), desert kangaroo rat (*Dipodomys deserti*), desert kit fox (*Vulpes macrotis*), desert tarantula (*Aphonopelma chalcodes*), desert wood rat (*Neotoma lepida*), leopard lizard (*Gambelia wislizenii*), side-blotched lizard (*Uta stansburiana*), sidewinder rattlesnake (*Crotalus cerastes*), western whiptail lizard (*Cnemidophorus tigris*), and zebra-tailed lizard (*Callisaurus draconoides*).

The Lead Canyon North site is located in a creosote bush scrub community and was interspersed with burro bush (*Ambrosia dumosa*), Mojave fishhook (*Sclerocactus polyancistrus*), and desert trumpet (*Eriogonum inflatum*). Desiccated plant remains indicated several annual plant species had grown within the project site. Due to the survey period and deteriorated condition, annual plant species identification was not possible.

The Lead Canyon South site is located in a creosote bush community and was interspersed with burro bush, Mojave fishhook, saltbush (*Atriplex sp.*), desert trumpet, and the remains of several annual plant species. A small rock outcrop and a wash, running northeast to southwest, were located west of the project site.

The Keyes Canyon North site is located in a creosote bush community interspersed with burro bush, desert trumpet, and the remains of several annual species. The only evidence of animal occurrence at this site was feral burro scat. The general topography of the area indicates that flooding may be a potential concern, especially during a 100 or 1,000-year flood event. Notable features include desert pavement and several small washes traversing the proposed access route to the site. Access to this site may require the installation of culverts within the washes.

The McElvoy Canyon site is located in a creosote bush scrub community and did not include any other plant species. The only evidence of animal occurrence was feral burro scat. The site is located within an alluvial fan with sheet flow from northeast to southwest. The area is highly likely to flood during large precipitation events.



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SALINE VALLEY RADAR FACILITY: FOUR ALTERNATIVE SITES DEATH VALLEY NATIONAL PARK/INYO NATIONAL FOREST INYO COUNTY, CALIFORNIA

BIOLOGICAL RECONNAISSANCE

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2 May 2000

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**SALINE VALLEY RADAR FACILITY: FOUR ALTERNATIVE SITES
DEATH VALLEY NATIONAL PARK/INYO NATIONAL FOREST
INYO COUNTY, CALIFORNIA**

**BIOLOGICAL RECONNAISSANCE
2 May 2000**

INTRODUCTION

The selection process for a remote radar site in the Saline Valley of trans-Sierran California focused down to four sites on the western side of that grabben valley on the east side of the Inyo Range. The sites, A-3, B-1 C-2 and D-2, were selected based on position, visibility and access criteria by a prior screening exercise. This report of the site reconnaissance is to ascertain the presence of potential for presence of sensitive biological resources and what impact, if any, the proposed facility might have on the observed or suspected biological resources.

The proposed facility is a self-contained, remotely controlled radar system allowing the monitoring of air traffic in the otherwise radar-invisible, remote desert valley. The facility would be powered by a solar array, so positioning relative to the seasonal sunset shadow of *the Inyo* Range was a major consideration. Impacts from any necessary access roads were also a consideration, so most sites were chosen with such access presently in place.

METHODOLOGY

A review of the literature and electronic resource information was made for sensitive biological resources reported from *the* region. The site inspection was made on 31 March 2000 by R. Mitchel Beauchamp, Senior Biologist, of Pacific Southwest Biological Services, Inc., in company with Panacea Inc., senior environmental staff members. Also present were, FAA maintenance personnel from Ridgecrest and Air Force civilian staff from Edwards Air Force Base. Members of the Renewable Energy Group of Golden, Colorado were present to assess the parameters for the solar array at each of the four candidate sites. Dana York, National Park Service Botanist, was also present at each for an independent site assessment.

CONCLUSION

The relative sensitivities of the four sites are, from least sensitive to most sensitive: B-1, C-2, A-3, D-2. The sensitivity relates to the quality of the vegetation at each. Sites B-1 and C-2 are disturbed areas, the first due to prior mining activity and the *latter* from parking in association with the adjacent spring area. Site A-3 has road access but the vegetation is undisturbed. The Creosotebush Scrub, however, is a common representative of Sonoran Desert habitat. Site D-2 is on the edge of sensitive desert playa habitat and adjacent to a desert oasis, although the artesian well was artificially developed. Access to the site will be through typical Creosotebush Scrub and the actual antenna site is a saline area of only Saltbush and Rabbitbush. The area is heavily impacted by visitors to the oasis.

Table of Observed Plant Taxa

Taxon	Candidate Sites			
	A-3	B-1	C-2	D-2
<i>Ambrosia dumosa</i>	X			
<i>Atriplex canescens</i>			X	
<i>Atriplex hymenelyptra</i>	X			
<i>Atriplex polycarpa</i>			X	X
<i>Chorizanthe rigida</i>	X	X		
<i>Chrysothamnus nauseosus</i>				X
<i>Cryptantha barbiger</i>	X	X		
<i>Echinocactus polycephalus</i>	X			
<i>Ericgonum inflatum</i>	X			
<i>Erioneuron pulchellum</i>	X			
<i>Larrea divaricata</i>	X	X	X	
<i>Opuntia basilaris</i>	X			
<i>Pectocarya setosa</i>	X			
<i>Plagiobotrys arizonicus</i>			X	
<i>Plantago patagonica</i>	X			
<i>Pluchea sericea</i>				X
<i>Prosopis glandulosa</i> var. <i>torreyana</i>				X
<i>Psoralea arborescens</i> <i>minutifolia</i>	X	X		
<i>Tidestromia oblongifolia</i>	X			

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**BIOLOGICAL ASSESSMENT
OF ELECTRONICS INSTALLATION SITES
NORTHERN MOJAVE DESERT**

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BIOLOGICAL ASSESSMENT OF ELECTRONICS INSTALLATION SITES NORTHERN MOJAVE DESERT

20 September 2001

Introduction

Two candidate sites for the installation of electronics facilities to aid in the navigation and monitoring of military aircraft were field surveyed for biotic resources by the biological staff of Pacific Southwest Biological Services. The surveys were made at the request of and under contract with Panacea, Inc.

Methodology

The survey of biotic resources of these four sites was made on 7 July 2001 by R. Mitchel Beauchamp, M. Sc. and Biologist Hector N. Loubet. Each site was surveyed on foot and the individual survey areas involved was about an acre about the mapped location. Access to each site was by way of existing roads or trails. Lists of plants and animals observed were compiled and the vegetation characterized by observation of the principal components, largely shrubs.

Assessment Of Potential Impacts

The upper, Southern Nelson Range site has been disturbed by prior clearing, apparently in association with mineral prospecting. The lower, Northern Nelson Range site has not been disturbed to any significant degree. Construction of electronic facilities at these sites will require access road improvement. This activity will probably have more impact than that facility itself.

Pacific Southwest Biological Services, Inc.